

# Patent Abstracts of Japan

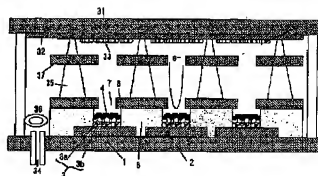
PUBLICATION NUMBER : 2000268701  
 PUBLICATION DATE : 29-09-00  
 APPLICATION DATE : 15-03-99  
 APPLICATION NUMBER : 11069285

APPLICANT : TOSHIBA CORP;

INVENTOR : ASAKAWA KOUJI;

INT.CL. : H01J 1/304 H01J 1/30 H01J 9/02

TITLE : ELECTRON EMITTING ELEMENT, ITS  
 MANUFACTURE, DISPLAY ELEMENT  
 AND ITS MANUFACTURE



ABSTRACT : PROBLEM TO BE SOLVED: To provide a uniform display element in a large area with a long service life and high fineness capable of easily suppressing unevenness of the amount of emitted electrons and being driven at low voltage when many elements are formed with an electron emitting element using a fine particles emitter in a large area.

SOLUTION: An electron emitting element has a substrate 1, a cathode wiring layer 2 formed on the substrate 1, a gate wiring layer 6, and an insulating layer 5 electrically insulating the cathode wiring layer 2 from the gate wiring layer 6, and is formed with a resistance layer 3 and an emitter layer 4 in a through hole piercing the gate wiring layer 6 and the insulating layer 5. The resistance layer 3 is formed by dispersing conductive fine particles 3b in a base material consisting of insulating fine particles 3a. The emitter layer 4 is formed of a fine particle material. The insulating layer on the first substrate formed with a cathode electrode line, the emitter layer, the insulating layer, and a gate electrode line in its order consists of a silicon dioxide film contains fluorine.

COPYRIGHT: (C)2000,JPO